

BUREAU OF AUTOMOTIVE REPAIR

FINAL STATEMENT OF REASONS

HEARING DATES: August 13, 2007

**SUBJECT MATTER OF
PROPOSED REGULATIONS:** Smog Check Program; Establishment of the Specifications and Procedures for a Visible Smoke Test; and Application of the Repair Cost Waiver Expenditure Limit to Smoke Test Failures

SECTION AFFECTED: §§ 3340.42, 3340.43, Article 5.5, Title 16, Division 33, Chapter 1, California Code of Regulations¹

UPDATED INFORMATION:

The *Initial Statement of Reasons* is included in the file. No changes have been made which would warrant a change to the information contained therein.

LOCAL MANDATE:

A mandate is imposed on local agencies or school districts. Such mandate is not reimbursable pursuant to section 6 of Article XIII B of the California Constitution or section 17500, et seq. of the Government Code because it is not unique to local government. This proposed regulatory action affects both the private sector and the public sector (County of Los Angeles vs. State of California, et al., 43 Cal App 3d 46 (1987)).

SMALL BUSINESS IMPACT:

This action will not have a significant adverse economic impact on businesses, including small businesses. This determination is based on the following facts or evidence/documents/testimony:

Visible Smoke Test

This test does not require any additional equipment to be purchased by stations and adds 20 seconds to the total test time. Therefore these regulations will not have a significant adverse impact on inspection businesses. While the Smog Check industry may incur some minor costs in training technicians to perform smoke inspections, these potential costs would be more than

¹ All regulation reference hereafter shall be to Title 16 of the California Code of Regulations, unless otherwise specified.

offset by any additional repair revenue potentially generated from repairing vehicles that fail the smoke test and by potential increases in the cost of a smog check. In addition, a few automotive dismantling businesses may actually see increased revenue due to additional motorists that voluntarily elect to retire vehicles that fail the smoke test and receive the \$1,000 incentive offered by the Bureau's Consumer Assistance Program (CAP).

Eligibility for the Repair Cost Waiver

The business impact of extending a one-time repair cost waiver eligibility to individuals with an economic hardship, but who do not meet the definition of a low-income person (i.e., near low-income consumers), cannot be determined until the number of vehicles failing Smog Check *strictly* for visible smoke can be determined. It is difficult to estimate the number of consumers in the near low-income group, or how many would opt for the one time repair cost waiver. However, the potential for the automotive repair industry to realize an increase in revenue from the repair of those vehicles may offset any adverse economic impact created by the extension of repair cost waiver eligibility to near low-income consumers.

CONSIDERATION OF ALTERNATIVES:

No reasonable alternative, which was considered or that has otherwise been identified and brought to the attention of the Bureau, would be either more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed regulation.

OBJECTIONS / RECOMMENDATIONS AND RESPONSES:

The following comments/objections/recommendations were made, either in writing or orally, during the public comment period or at the public hearings, regarding the proposed action:

Visible Smoke Test

1. Jonathan Morrison, California Motor Car Dealers Association:

- a. We object to the proposed regulations because the regulatory proposal is impermissibly vague. The proposed language tells Smog Check technicians where and how long to look for smoke, but it doesn't provide any guidance as to what constitutes visible smoke. The statute² makes clear that "steam from condensation" does not constitute an inspection failure for smoke, but it does not specify how a Smog Check technician is to determine what is considered visible smoke, or how to differentiate between steam and smoke. We had assumed that these uncertainties would be clarified by regulation.

Smog Check technicians are left without guidance as to whether a transparent cloud coming from a crankcase or exhaust outlet should be considered steam or smoke, and whether to pass or fail a vehicle. If the technician mistakenly believes that a cloud of

² Health and Safety Code § 44012.1.

smoke is steam, or that it was not sufficiently opaque, the Smog Check station and technician licenses could be at risk because a potential “dirty” vehicle that should have been failed would be certified. If a Smog Check technician is cautious and labels steam as smoke and fails the vehicle, the Smog Check station would face liability and have an unhappy customer.

The proposed regulation does not meet the clarity requirement of the Administrative Procedure Act. The visible smoke test will be a new requirement to the existing Smog Check test procedures. Smog Check technicians have not been trained to identify visible smoke or distinguish between steam and smoke. The terms “smoke” and “steam from condensation” do not have meanings generally familiar to Smog Check technicians who are directly affected by the regulation. Neither the statute nor the proposed regulation provides a definition of these terms and the regulation is therefore invalid.

This comment/recommendation was rejected because:

The term “smoke,” as used in the context of Health and Safety Code section 44012.1 and California Code of Regulations section 3340.42, is generally familiar and well understood by automotive repair technicians, including Smog Check technicians. In addition, the form included in section 3340.42 as Figure 1, Visible Smoke Test Failure Consumer Information Sheet (SMOKE INFO (1/07), reference is made to the various colors of smoke and the probable causes. Smog Check technicians are capable of determining when a vehicle is emitting the type of smoke that would cause a failure of the visible smoke test. Smoking vehicles are not new to the automotive repair industry. General automotive repair technicians also encounter smoking vehicles in the ordinary course of their work.

Differentiating between steam from condensation and smoke is also a common occurrence in the ordinary course of the work of general automotive repair technicians and Smog Check technicians. Steam emanating from an exhaust pipe may be a natural result of condensation in the exhaust system and not necessarily the result of any malfunction. Steam is easily distinguishable by its very light whitish color, its thin, almost transparent, appearance, and its very rapid dissipation in the atmosphere. Smoke, on the other hand, has a more distinctive coloration, is much thicker in appearance, and is slow to dissipate.

Furthermore, there does not appear to be any widespread concern or confusion on the part of Smog Check technicians since no technicians have commented on the proposed action. This is another indication that the currently available education and training for automotive repair technicians and Smog Check technicians adequately prepares them to identify smoke and to diagnose the probable causes. Referee services are available to consumers to settle any disputes.

- b. Putting together a definition of visible smoke is extremely difficult and we understand and appreciate the Bureau’s difficulty in doing so, but maybe something such as an

illustration or video that could be incorporated by reference, would be helpful. That could show what sort of things are or are not to be considered visible smoke. That way, a technician coming onto the scene, who has never been trained on this sort of thing before, can see that, for example, heat waves aren't considered visible smoke; or black smoke or white smoke is to be considered visible smoke. So, as far as suggestions in terms of language, I think that's a bit difficult, but in terms of an illustration, I think that would be very helpful.

This comment/recommendation was rejected because:

It is not common or necessary to incorporate specific training materials in regulation. However, the Bureau plans to develop informational materials and will provide demonstrations upon request, to assist those individual stations and technicians who may want additional information. These materials and instruction will be made available at no cost.

2. Thomas Addison, Bay Area Air Quality Management District:

- a. The Bay Area Air Quality Management District co-sponsored Assembly Bill (AB)1870 of 2006, authored by Assemblymember Lieber. The District is pleased to see the Bureau moving towards implementation. We believe that most smoking vehicles are burning engine oil, and that this is most visible during acceleration. Thus, the smoking vehicles that AB 1870 was designed to clean up may not emit visible tailpipe smoke while the vehicle is at idle. Yet, the draft regulation would only fail a vehicle for smoking while the vehicle is at idle. Thus, we are concerned that the draft regulation may miss many smoking vehicles, and not accomplish the goal of the legislation.

Perhaps the regulation could be modified so that a vehicle fails for visible smoke if the technician observes smoke either during idle, or at any other point during the test. For example, if the technician observes smoke from the tailpipe that is severe enough to be seen in the rearview mirror of the vehicle while the vehicle is under load on the dynamometer, that should be grounds for the vehicle to fail.

This comment/recommendation was rejected because:

This recommendation was considered by the Bureau in the development of this proposed action and was rejected. The Bureau sought a smoke test procedure that could be consistently performed statewide on all vehicles subject to the Smog Check program. The smoke test procedures proposed by this action were developed in cooperation with the Air Resources Board and are considered to be simple, cost effective, and compliant with existing law pursuant to Health and Safety Code section 44013(b).

In developing the smoke test proposed by this regulatory action, the Bureau considered the following statutory constraints contained in Health and Safety Code section 44012 (a):

- (1) Visible smoke must emanate from the tailpipe;
- (2) The smoke must be observed during the inspection.

In order to determine that the smoke is only emanating from the tailpipe during an inspection, as prescribed in Health and Safety Code section 44012, the technician must directly observe smoke from the tailpipe. Within the inspection procedure, this direct observation only occurs when the technician inserts or removes the exhaust measurement probe from the tailpipe. Making the observation at the end of the ASM (loaded-mode) test ensures that the vehicle is fully warmed up and clouds of condensation would not constitute a failure.

While writing the specific inspection procedure, the Bureau recognized that vehicles smoke for many other reasons that would not contribute to tailpipe or crankcase smoke. Vehicles emit smoke from the tailpipe or crankcase for two primary reasons:

- (1) Worn rings and pistons: Smoke due to worn rings and/or pistons is primarily observed when the vehicle is accelerating. As a result, smoke would not be observed during the steady-state 2500 rpm test as suggested. Further, the 2500 rpm test is not a normal vehicle operating speed. The Bureau also considered and rejected a snap idle test or a loaded-mode test as discussed below. Basically, vehicles with worn rings and/or pistons tend to be high mileage vehicles and their lower compression levels will likely cause the vehicle to fail the emissions portion of the Smog Check test.
- (2) Worn valve guides: Smoke due to worn valve guides is primarily observed when the vehicle is at idle or decelerating. Thus, the Bureau's proposed idle test method will best detect smoke due to worn valve guides.

As mentioned above, the Bureau considered procedures that would have required a Smog Check technician to observe the exhaust tailpipe of a vehicle from the driver's seat during the performance of the ASM (loaded-mode) test or a snap-idle test. The following concerns are associated with these test procedures.

- The loaded-mode test procedure would not allow uniform testing throughout the state since the emissions test procedure differs by Smog Check program area. The ASM test is performed in the urbanized, enhanced areas of the state and a two-speed idle test is performed everywhere else.
- Observation of smoke during the ASM or snap-idle test would require an observation aid in order to allow the technician to view the rear of the vehicle and simultaneously accelerate the vehicle through the ASM drive sequence or perform the snap-idle procedure. The statute requiring these regulations specifically

prohibited requiring that additional equipment be mandated. Because of the equipment limitations, the only other option would have been to require every station to have two licensed technicians on duty at all times. Requiring an additional technician to view the tailpipe would substantially increase the cost of a Smog Check, impacting both stations and motorists, likely more than the cost of prohibited equipment. Existing authority specifies that Smog Check technicians perform Smog Check tests and repairs. Many stations employ only one technician due to business needs.

- Further, the idea of using mirrors, either the vehicle's rear view mirror or auxiliary mirrors, was also rejected. Factors such as mirror placement, lighting, and weather conditions would affect the technician's ability to perform the test, which raises concerns about conducting tests uniformly from station to station and would ultimately impact the Bureau's ability to enforce the test procedure requirements. Weather conditions such as fog or wind and auxiliary components on a vehicle, such as a camper shell or utility rack, also would obscure observation of smoke using mirrors.
- Conducting the test during the 2500 rpm portion of the two-speed idle (TSI) test was considered and rejected for several reasons. It would require an additional technician or other observation aid to observe the tailpipe area of the vehicle while the technician accelerates the motor. The alternative of using a throttle jack or other device to hold the accelerator at 2500 rpm while the technician views the tailpipe and crankcase area, poses a significant safety concern for technicians standing in front of or behind the running vehicle to observe for smoke when these devices malfunction. The State of Nevada advises that they discourage stations from using throttle jacks or other devices as vehicles have been damaged by jumping into gear.
- In addition, requiring the 2500 rpm portion of the TSI test in conjunction with a loaded-mode test would require a software update to display the rpm speed and to add the procedure into the test routine following the ASM portion of the test. This would be necessary to provide a means for the technician to view the rpm speed read by the tachometer to ensure that the visible smoke test is performed when the engine speed is at 2500 rpm.
- Observation of smoke "at any other point during the test" was also considered. However, specifying an exact point in time to conduct the smoke test, as well as specifying the length of time to observe for the existence of visible smoke, will ensure that the test is conducted uniformly, with minimal training by all Smog Check technicians.
- The Bureau also considered the USEPA smokestack inspection procedures; however, these are not suitable to a garage environment. Specifically, the USEPA Method 9, used to visually determine opacity of emissions from a stationary source, requires qualified observers to be tested and certified every six months.

Also, this method requires the observer to assign opacity readings in 5 percent increments, which seems excessive for a Visible Smoke Test as sought by this proposed action. This alternative would have required extensive training and re-training of Smog Check technicians, which would be overly burdensome and not economically feasible.

In summary, the test procedures described in the proposed regulation were determined to be a practical method of implementing a uniform statewide test that applies to all model-year vehicles and conforms to the restrictions contained within the authorization legislation. Specifying the exact point in time to conduct the smoke test, as well as a specified length of time to observe for the existence of visible smoke, establishes a set procedure that can be conducted with minimal training by all Smog Check technicians statewide and allows for enforcement by the Bureau that is uniform and equitable. The alternative procedures considered would be difficult to enforce uniformly due to more subjective factors already discussed or were prohibited by the terms of the legislation.

- b. Another modification might be that the observation time for observing tailpipe or crankcase smoke from a vehicle could be increased beyond the 10 seconds currently allotted in the draft regulation. We suspect that a longer observation time might improve the odds of a vehicle failing the test.

This comment/recommendation was rejected because:

The proposed action requires a minimum of 10 seconds be dedicated to observing for smoke; however, the technician has the option of extending this time frame if necessary. The time of 10 seconds was selected for several reasons. Vehicle Code section 27153.5 prohibits vehicles from discharging smoke into the atmosphere for a period of more than 10 seconds. Through research and experimentation on vehicles in the Bureau's laboratories, and from the experience and expertise of Bureau engineering and technical staff, who are themselves highly qualified automotive and Smog Check technicians, the 10-second minimum is adequate to identify smoke.

3. Dennis DeCota, California Service Station and Automotive Repair Association

- a. The biggest problem is that the test will only be conducted at idle. Therefore, this test will catch very few smoking vehicles. Most vehicles are going to smoke on acceleration or higher rpm. Therefore, at the minimum, this test should be conducted at idle and 2500 rpm. For the 2500 rpm test, the technician can use a throttle jack and step out of the vehicle to observe the tailpipe for smoke just like they do at idle. Even Nevada tests for smoke at both idle and 2500 rpm. If we fail to test for smoke at 2500 rpm, then this test will become a waste of time.

This comment/recommendation was rejected because:

See response to comment number 2 (a) above.

- b. The current package includes white smoke in addition to black and blue. White smoke could create some problems since white smoke may be the result of condensation and no actual mechanical problem. In contrast, white smoke could also be the result of coolant from a blown head gasket, cracked cylinder head or block assembly. If this is the source of the white smoke, then it could damage components such as the catalytic converter and oxygen sensor and subsequently increase tailpipe emissions. Assuming the vehicle has already completed the ASM portion of the test and would in all probability be warmed up, I suspect this is okay so long as some mention is made regarding condensation.

This comment/recommendation was rejected because:

See response to comment number 1 (a) above.

- c. Sections 3340.429(e)(5)(A) and (B) require that the technician document this failure and operating condition on both the Vehicle Inspection Report (VIR) and invoice. Why do we have to be so redundant? It seems that they should only be required to document it on the VIR like any other failure is indicated and provide a copy to the customer and one for the shop records.

This comment/recommendation was rejected because:

The requirement for the technician to document the smoke failure on both the invoice provided to the consumer and on the Vehicle Inspection Report (VIR) which is retained by the station, is necessary because the EIS does not currently have the capability of compiling data from the results of visual smoke inspections.

Including the smoke failure information on the VIR is necessary as the failure field is pre-programmed and the result of the smoke test will be shared with another entry field. Therefore, it is necessary to note on the VIR that the vehicle failed specifically for visible smoke rather than the “other” reason that is currently programmed to be printed on the VIR.

Separately, the customer invoice is required to include an indication of whether the vehicle failed for visible smoke coming from the tailpipe, crankcase, or both.

There were no further comments, objections or recommendations received within the initial 45-day public comment period regarding this element of the proposed action.

Eligibility for the Repair Cost Waiver

There were no comments, objections or recommendations received within the initial 45-day public comment period regarding this element of the proposed action.